

Lay Language Summary

Cervical and Shoulder Manipulative Therapy Effects on Pain Sensitivity

Manipulative therapy is a common intervention used for treating pain. However, how these techniques work to produce a clinical benefit is not fully understood. Previous studies have shown that manipulative therapy techniques can produce an immediate improvement in the response to a pressure or heat stimulus. These findings are informative, but further study is needed to better direct the use of manipulative therapy. For example, few studies have compared the effects of extremity (EMT) and spinal (SMT) manipulative therapy and to what extent these techniques change patterns of pain responses. Examining the differences in EMT and SMT and determining their association to clinical outcomes could enhance the clinical benefit of manipulative therapy. The purpose of this study is to examine whether EMT or SMT has different effects on pain responses and clinical outcomes in patients with unilateral shoulder pain. A total of 81 individuals with shoulder pain and 27 healthy individuals will be recruited into this study. Comparison of pain sensitivity between the shoulder pain and healthy groups will be used to identify patterns of pain response. Individuals with shoulder pain will be randomized to 1 of 3 intervention groups: cervical SMT group; shoulder EMT group; or a home exercise group. Treatment will be completed over a 2-week period and follow-ups will be measured immediately and at 1-week, 2-week, and up to 3-months later. Outcome measures will include clinical pain intensity, disability, shoulder motion, and pain response. Pain response will include pressure and thermal stimuli. Successful completion of this study will provide a better understanding of underlying mechanisms of manipulative therapy on measures of pain processing and determine if favorable changes in pain processing are linked to better clinical outcomes.